

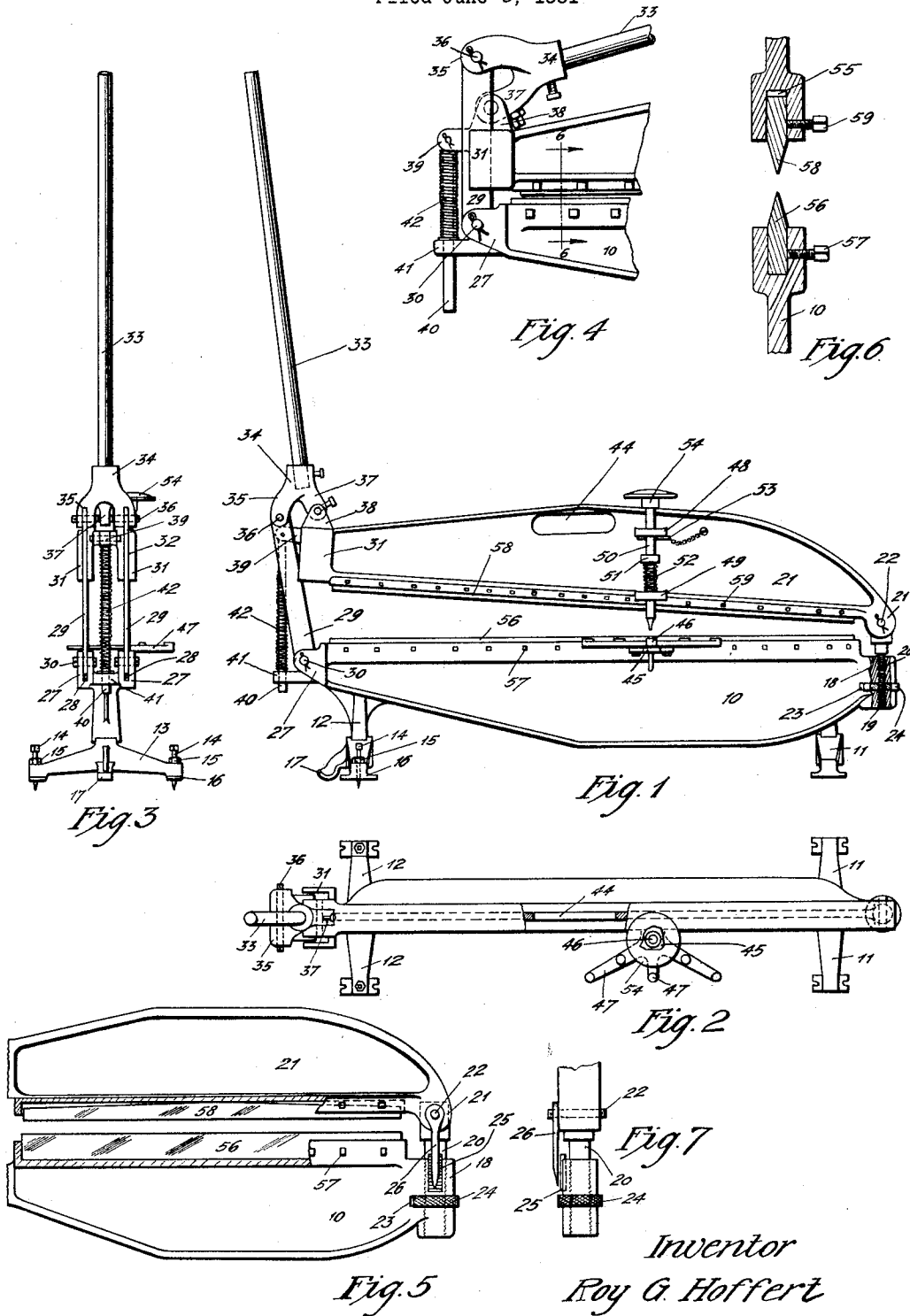
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SHINGLE CUTTER

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UNITED STATES PATENT OFFICE

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SHINGLE CUTTER

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The object of my invention is to provide a shingle cutter of simple, durable and inexpensive construction which is adapted to cut shingles of various thicknesses and which is comparatively easy to operate.

A further object is to provide in a shingle cutter of that type having two jaw members carrying cutter blades improved means for pivotally connecting one end of said jaw members, whereby the distance between the pivoted ends may be varied at the will of the operator to accommodate shingles of different thicknesses, and to provide in connection therewith an indicator to show the amount of adjustment necessary for shingles of different thicknesses.

A further object is to provide in a shingle cutter of the type having two jaw members carrying cutter blades, the jaw members being pivotally connected with one end, improved means for swinging the free ends of the jaw members to open and closed positions, whereby the cutter will be supported against lateral movement one relative to the other as they are operated.

A further object is to provide in a shingle cutter improved means for temporarily attaching the cutter frame to a roof.

A further object is to provide in a shingle cutter, having movable jaw members and leverage mechanism for operating the jaw members, a punch carried by one of said jaw members and a punch die carried by the other jaw member, whereby the lever mechanism may be utilized for punching purposes as well as for operating the cutter blades.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of my improved shingle cutter.

Figure 2 is a plan view of same.

Figure 3 is a front end view.

Figure 4 is a side elevation of the front

end of the cutter with the jaws in their closed position.

Figure 5 is an enlarged detail view showing the device for indicating the amount of adjustment of the cutter blades.

Figure 6 is a detail sectional view taken on the line 6—6 of Figure 4.

Figure 7 is an end elevation of Figure 5.

Referring to the accompanying drawing, I have used the numeral 10 to indicate the lower jaw member of my improved cutter, which also constitutes the cutter base. The back of the member 10 has a downwardly extending leg 11, while the forward end is provided with a downwardly extending leg 12. The lower end of the leg 12 terminates in lateral arm portions 13, each of which has a set screw 14 pointed at its lower end, the set screw being provided with a lock nut 15 for anchoring the screw in position. The pointed end of the set screw extends below the foot portion 16 a slight distance to penetrate the sheeting of the roof on which the device is mounted, to prevent it from slipping off of the roof.

The lower end of the leg 12 is also provided with a downwardly and forwardly extending shoe 17. Said shoe 17 is designed to assist in pulling the pointed ends of the set screw when removing the cutter frame. This is accomplished by simply elevating the rear end of the frame at which time the shoe 17 serves as a fulcrum.

The rear end of the jaw member 10 is provided with an enlarged portion 18 having a hole 19 for receiving a threaded rod 20. The upper end of said rod 20 is pivotally connected in the rear end of the upper jaw member 21 by means of a pivot 22. The member 18 is also provided with a slot 23 for receiving a knurled nut 24, which provides means for elevating and lowering the rod 20 for adjusting the rear end of the jaw member 21.

The member 18 is also provided with a socket in which a graduated plate 25 is inserted. An index member 26 is carried by the pivot members 22, having its free end designed to pass over the graduated plate 25 for indicating the distance the rear ends

of the jaw members are adjusted apart in fractions of an inch.

The front end of the jaw member 10 is provided with a pair of spaced lugs 27, each of which is provided with a groove 28 having a link 29 pivotally mounted therein by means of pivot members 30.

The forward end of the jaw member 21 is also provided with a pair of spaced lugs 31, each of which is provided with a groove 32. The distance between the grooves 32 is the same as the distance between the grooves 28, said grooves providing guides for receiving the links 29.

For operating the free ends of the jaw members, I have provided a handle 33, the lower end of which has a yoke 34 having two forwardly and downwardly extending bifurcated lugs 35 for pivotally receiving the upper end of the links 29 by pivot members 36. The yoke is also provided with a rearwardly and downwardly extending lug 37, which is pivotally mounted in the bifurcated lug 38 extending upwardly from the upper surface of the forward end of the jaw member 21.

By this arrangement it will be seen that if the upper end of the lever 33, as seen in Figure 1, is moved rearwardly, then the lever 37 will be swung about the pivot of the leg 37, causing the pivot members 36 to be elevated and moved rearwardly, which in turn will cause the forward end of the jaw member 21 to be lowered. The pivots 36 approach a nearly dead center position as the jaw members are moved to their closed position, so that considerable leverage is provided.

The forward end of the jaw 21 is provided with a forwardly extending lug 39, in which is pivotally mounted one end of a rod 40, the lower end of said rod being slidably mounted in the forward end of a lug 41, extending forwardly from the jaw member 10. A spring 42 is placed on the rod 40 and assists in moving the jaw members to a separated position and for holding them in their open position when the shingles are placed in position between the jaw members.

The inner edges of said jaw member are each provided with a longitudinal groove 55, which grooves are of uniform depth. A cutter blade 56 is supported in said groove with its back edge fitting the bottom of said groove. Set screws 57 are provided for holding said blade in position. A cutter blade 58 is provided for the top groove 55 having its back edge beveled outwardly and inwardly from its central portion. The back edge of the outer end of the block is beveled a greater amount than the back of the inner end.

Set screws 59 are provided to hold the cutter firmly in the slot 55 and at the same

time permits the cutter to fit in the slot in such a manner that the cutter will always automatically assume a parallel position relative to the cutter 56 when the jaw members are closed, in case the set screw 20 should not be adjusted quite right.

In actual operation when cutting thick shingles it is often desirable to cut only part way through, after which the pieces are broken apart to leave a rough edge for ornamental purposes, in which case the cutters never come in contact with each other.

The jaw member 21 is provided with an opening 44 near the upper edge of the jaw member to form a hand hold by means of which the cutter may be moved from one position to another.

Formed on the upper edge of one side of the jaw member 10 is a laterally extending bracket 45, having a punch die 46, said bracket also having radially extending arms 47 which assist in supporting a shingle in position on the die. The upper surfaces of the members 47 are level with the upper edge of the lower cutter 43, so that the edge of the cutter also serves as a support for the shingle.

The upper jaw member is provided with laterally extending lugs 48 and 49, which are designed to slidably receive a punch 50 to coact with the punch die 46. The punch 50 has a collar 51 and a spring 52, the spring being mounted between the member 49 and the collar 51 to normally hold the punch in its elevated position with the collar 51 against the under surface of the lug 48.

The punch 50 is provided with a suitable opening to receive a pin 53 for locking the punch in its lower limit of movement, and when so locked, the lower end of the punch will enter the die 46 as the jaw member 21 is moved to its closed position by means of the lever 33.

The upper end of the punch 50 is provided with a hand plate 54 which provides means for forcing the punch downwardly against the action of the spring when the pin 53 is being placed in position. After said pin is in position, then the punch may be utilized for punching holes in the shingles, or if so desired, the punch may be operated by simply pressing the member 50 downwardly by means of the member 54.

Thus it will be seen I have provided a shingle cutter of comparatively simple and rigid construction in which the pivoted end of the cutter jaws may be adjusted at the will of the operator; and in connection therewith a gauge to enable the operator to quickly and easily make the necessary adjustment; and at the same time I have provided a powerful lever mechanism for closing the free ends of the jaws, said mechanism including a pair of spaced links which pull the upper cutter member downwardly in a

line direct with the lower cutter, so the upper cutter members are always working opposite each other, and thus avoid any pinching tendency which is likely to exist if power is applied by a single link.

Furthermore, the upper jaw member is provided with guides for receiving the links to prevent lateral movement of its forward end. The spring 42 provides reliable means for opening the jaw members and retaining them in an open position while the shingle is being placed between the cutters.

The adjustable pointed set screws 14 provide means whereby the cutter may be easily and quickly moved from one position to another. The shoe 17 assists in removing the pointed member.

I claim as my invention:

1. A shingle cutter comprising a pair of jaw members having their rear ends pivoted together, coacting cutters carried by said jaws, a pair of spaced links pivoted to the forward end of one of said jaws, a lever for closing said jaws having a yoke at one end, means for pivoting one leg of said yoke to the free ends of said links, means for pivoting the other leg of said yoke to the forward end of the other jaw member, a rod having one end pivotally connected to the forward end of one jaw member and its other end slidably mounted in the forward end of the other jaw member, and a spring on said rod and between said jaw members for normally holding the jaw members in open position.

2. In a shingle cutter, the combination of a pair of pivoted jaw members, each having its inner edge provided with a longitudinal groove, a cutter blade in each groove, the back edge of one blade being beveled outwardly from its central portion to permit a slight tilting movement of said blade as it is moved to closed position.

3. In a shingle cutter, the combination of a pair of pivoted jaw members, each having its inner edge provided with a longitudinal groove, a cutter blade in each groove, the central portion of the back edge of said blade being designed to engage the bottom of said grooves with spaces between the ends of said back edges, and the bottom of said grooves to permit tilting movement of said blade therein, for the purposes stated.

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